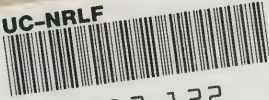


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MINISTRY OF AGRICULTURE, INDUSTRY AND COMMERCE

# Economical Notes on Brazil

ISSUED BY THE BUREAU OF INFORMATION

(SERVIÇO DE INFORMAÇÕES)

## Dr. Ildefonso Simões Lopes

BEING THE MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE

(THIRD EDITION)

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## PREFACE



## PREFACE

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The ensuing pages are a revision of the same work issued in 1916 by order of Dr. José Rufino Beserra Calvacanti, then Minister of this Department.

As now submitted to the public, the work has undergone some amendment, consisting chiefly in the extension of several sections in the measure of the later development of their subjects, the inclusion of a number of articles of recognized utility, and the continuation of the statistical tables down to 1917.

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## **BRAZIL'S FOREIGN TRADE**

**During the years 1914, 1915, 1916 and 1917**







Mean value per unit in réis ( paper )

ARTICLES	UNIT	1913	1914	1915	1916	1917
Cotton.....	Kilo	\$925	\$928	1\$051	2\$241	2\$540
Sugar.....	»	\$181	\$212	\$244	\$475	\$523
Rubber.....	»	4\$296	3\$388	3\$861	4\$834	4\$238
Cacau.....	»	\$803	\$752	1\$248	1\$152	\$864
Coffee.....	Bag	46\$103	39\$017	36\$368	45\$187	41\$509
Hides.....	Kilo	\$952	\$905	1\$495	1\$001	1\$868
Tobacco.....	»	\$836	\$874	\$835	1\$424	\$910
Mate.....	»	\$542	\$459	\$475	\$505	\$538
Skins.....	»	3\$578	3\$277	3\$147	4\$381	7\$008
Chilled meat.....	»	—	\$778	\$719	\$837	\$900

Mean value per unit in pounds sterling

ARTICLES	UNIT	1913	1914	1915	1916	1917
Cotton.....	Kilos	1 s 2 3/4 d	1 s 2 3/4 d	1 s 4 3/4 d	2 s 11 3/4 d	1 s 4 1/2 d
Sugar.....	»	3 d	3 1/4 d	3 3/4 d	7 1/2 d	8 1/4 d
Rubber.....	»	5 s 8 1/2 d	4 s 6 d	5 s 1 3/4 d	6 s 1 3/4 d	5 s 7 1/4 d
Cacau.....	»	1 s 3/4 d	1 s 0	1 s 7 3/4 d	1 s 6 1/2 d	1 s 1 3/4 d
Coffee.....	Bag	3 £ 1 s 5 1/2 d	2 £ 12 s 0 1/4 d	2 £ 8 s 5 3/4 d	2 £ 0 s 3 d	2 £ 15 s 4 d
Hides.....	Kilo	1 s 3 d	1 s 2 1/4 d	2 s	2 s 1 1/2 d	2 s 5 3/4 d
Tobacco.....	»	1 s 1 1/4 d	1 s 1 3/4 d	1 s 1 1/4 d	1 s 10 3/4 d	1 s 2 1/4 d
Mate.....	»	8 3/4 d	7 1/4 d	7 1/2 d	8	8 1/2 d
Skins.....	»	4 s 9 d	4 s 4 1/4 d	4 s 2 1/4 d	5 s 10 d	9 s 4 d
Chilled meat.....	»	—	1 s 0 1/2 d	1 s	1 s 1 1/4 d	1 s 2 1/2 d

Rate of exchange, 16 d. per mil réis.

Exportation of Native Goods per Principal  
Countries of Destination



COUNTRIES	VALUE F. O. B. MIL REIS PAPER				POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917
United States...	312,198,000\$	427,924,000\$	520,499,000\$	523,952,000\$	19,001,781	22,149,556	25,831,905	27,515,861
British Empire.....	108,000 000\$	125,056,000\$	131,116,000\$	143,269,000\$	6,746,749	6,475,698	6,493,249	7,470,028
Germany.....	69,565,000\$	—	—	—	4,637,337	—	—	—
France and Colonies.....	60,938,000\$	116,501,000\$	178,654,000\$	157,089,000\$	3,829,156	6,031,852	8,899,577	8,318,323
Holland.....	43,848,000\$	63,952,000\$	33,763,000\$	5,988,000\$	2,693,333	3,369,821	1,684,819	320,347
Austria-Hungary.....	15,243,000\$	—	—	—	1,015,355	—	—	—
Argentine Republic.....	36,476,000\$	52,095,000\$	67,993,000\$	102,616,000\$	2,226,042	2,692,439	3,393,699	5,474,617
Belgium.....	11,393,000\$	—	—	—	756,386	—	—	—
Uruguay.....	16,853,000\$	35,356,000\$	54,424,000\$	52,563,000\$	1,038,843	1,796,540	2,698,549	2,802,527
Italy.....	23,897,000\$	32,126,000\$	68,103,000\$	91,803,000\$	1,393,753	1,662,748	3,401,060	4,821,469
Sweden.....	18,402,000\$	92,645,000\$	31,276,000\$	1,529,000\$	1,068,329	4,775,722	1,531,800	77,674
Spain.....	4,092,000\$	6,007,000\$	8,993,000\$	15,685,000\$	253,716	308,675	446,859	840,189
Portugal.....	6,608,000\$	9,291,000\$	6,261,000\$	5,243,000\$	415,583	486,117	313,600	273,807





## Exportation by States



STATES	VALUE F. O. B. MIL REIS PAPER				POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917
Anazonas.....	62,761.000\$	64,070.000\$	77,706.000\$	71,739.000\$	3,908.249	3,318.871	3,825.440	3,729,597
Pará.....	57,160.000\$	69,702.000\$	79,303.000\$	79,829.000\$	3,588,175	3,617.783	3,909,906	4,176,790
Maranhão.....	7,875.000\$	10,198.000\$	11,831.000\$	13,217.000\$	496.676	521.832	586.473	693,713
Ceará.....	13,180.000\$	18,598.000\$	18,509.000\$	17,438.000\$	832.966	959.082	914.557	911,278
Rio Grande do Norte.....	3,626.000\$	1,327.000\$	1,306.000\$	1,903.000\$	238,517	67.977	64,872	93,799
Parahyba.....	7,925.000\$	3,368.000\$	3,795.000\$	2,923.000\$	522,464	172,577	187,559	154,530
Pernambuco.....	19,570.000\$	22,591.000\$	25,566.000\$	52,333.000\$	1,295,948	1,177.672	1,272,008	2,718,133
Alagoas.....	4,686.000\$	6,895.000\$	3,948.000\$	3,888.000\$	289,152	358.023	196.655	204,125
Sergipe.....	82,000\$	—	—	—	5,117	—	—	—
Bahia.....	64,578.000\$	102,199.000\$	106,468.000\$	102,599.000\$	4,081,699	5,261.535	5,298,650	5,433,332
Espírito Santo.....	14,761.000\$	22,932.009\$	22,864.000\$	19,083.000\$	932,240	1,180.253	1,133,928	1,008,210
Rio de Janeiro.....	95,011.000\$	176,355.0.0\$	196,676.000\$	267,155.000\$	5,906,890	9,119,688	9,804,908	14,171,346
S. Paulo.....	352,949.000\$	465,213.000\$	489,632.000\$	422,335.000\$	21,566,728	24,150,008	24,351,481	22,184,003
Paraná.....	24,913.000\$	33,565.000\$	35,969.000\$	26,210.000\$	1,521,021	1,737,202	1,782,075	1,390,009
Santa Catharina.....	3,597.000\$	4,669.000\$	6,420.000\$	10,297.000\$	222,941	240,552	317,827	548,688
Rio Grande do Sul.....	17,915.000\$	35,468.000\$	49,278.000\$	36,577.000\$	1,129,233	1,800,680	2,440,380	1,986,792
Matto Grosso.....	4,135.000\$	5,148.000\$	7,817.000\$	8,947.000\$	265,189	266,209	375,384	470,795



# PRODUCTS



## COFFEE

The notices we have of the introduction and first cultures of coffee in Brazil are vague and contradictory. Several writers affirm, however, and with every appearance of truth, that it was brought from Cayenne, somewhere about 1723, by a Brazilian named Palheto. This man, in spite of the prohibition of the Government of that colony, succeeded in bringing a few seeds to Belém, and from these seeds sprang the coffee cultures in Pará and Amazonas, and, later, in Maranhão.

Coffee growing continued to develop. It was in all probability from the suburban grounds of the Barbadinhos, in Barbonos street, now called Evaristo da Veiga, in Rio de Janeiro, that, in the XVIII century, came the seeds whence sprang the coffee fields in the States of Rio de Janeiro, Minas and São Paulo, the source of the ever increasing prosperity of these States and of the entire country.

The growing of coffee attained to a high degree of development, especially in the States of São Paulo, Minas Geraes, Rio de Janeiro, Espírito Santo, Bahia, Pernambuco and Maranhão. It was also grown in the other States, but on a smaller scale.

In a short time, the Brazilian production attained to two thirds of the yield in the world.

Coffee, by reason of the good returns it afforded, attracted all the energies and efforts of the Nation, and threatened to bring about the dismal situation of a country producing one single culture. But the sudden abolition of slavery in 1888, which caused the upheaval of the national system of labor, together with the superproduction of coffee,



brought about a great fall in the prices, which began in 1894, and only came to an end after the execution of the plan of valorization agreed upon, in 1906, between the Presidents of the three most important coffee States : S. Paulo, Minas Geraes and Rio de Janeiro.

We give below a table showing the exportation during the period 1905-1917.

YEARS	QUANTITY BAGS OF 60 KILOS	VALUE IN MIL RÉIS (PAPER)	EXCHANGE	VALUE IN POUNDS STERLING
1905.....	10.820.631	324.681:261\$	16	21.645.417
1906.....	13.965.800	418.319:742\$	16	27.893.316
1907.....	15.680.172	453.764:571\$	15	28.360.285
1908.....	12.658.457	368.285:424\$	15	23.017.859
1909.....	16.880.696	533.839:709\$	15	33.366.856
1910.....	9.723.738	385.493:560\$	16	25.699.570
1911.....	11.257.802	606.528:949\$	16	40.435.263
1912.....	12.080.303	698.371:183\$	16	46.558.078
1913.....	13.267.449	611.669:673\$	15	38.229.354
1914.....	11.271.000	439.736:000\$	15	27.483.500
1915.....	17.061.000	620.485:000\$	19	32.190.000
1916.....	13.039.000	589.174:000\$	20	29.279.000
1917.....	10.605.000	440.210:000\$	19	23.052.000

## RUBBER

During the last twenty years, many Brazilian States have directed their attention to the culture of the rubber-tree, which grows wild in the northern parts of the country.

The chief rubber-yielding plants are : *the Hevea Brasiliensis*, which is the rubber-tree properly so called, the *Manicoba*, the *Caucho*, also known as *Castillôa*, and the *Mangabcira*.

The *Hevea Brasiliensis* is met with in a native state in the Acre Territory and in Amazonas, Pará and Matto-Grosso. There are at present numerous plantations in a very prosperous condition in Maranhão, Piaulhy, Ceará, Parahyba do Norte, Bahia, Espirito Santo and Rio de Janeiro. This tree produces excellent rubber.

The *Maniçoba* is found wild in vast areas of Maranhão, Piauí, Ceará, Bahia, Minas Geraes, Goyaz and Paraná. It is cultivated on a small scale in Rio Grande do Norte, Paraíba, Pernambuco, Alagoas and Sergipe.

The *Caucho* or *Castillôa* is met with in the Amazon valley and in Pará. It is thought by many planters to be one of the most important of the rubber-yielding species.

The *Mangabeira* is met with throughout the region comprised between the upper Acre and the further extremity of Paraná. Its culture has been attempted in other States, but has subsequently been abandoned, owing to the small returns it has been found to offer in comparison with the other species.

The Amazonian rubber, prepared by the smoking method, is considered by foreign manufacturers to be the best in the world.

The competition of the Oriental plantations has led the Brazilian Government to adopt a number of measures tending to facilitate the native production of rubber.

By Law n. 2.453 A, of January 5th. 1912, exemption from duty is granted on utensils and material intended for the culture, gathering and refining of rubber, a bounty is awarded to cultivators, and Demonstration Farms are created for the same purpose.

By the same law, premiums of 100 to 400 contos are granted to the owners of rubber refineries in Brazil.

Contracts for the payment of these premiums have been signed with two firms, Martinelli & C., with plants in Pará and at Manáos, and Cantanhede de Almeida, established at Pirapora, Minas Geraes.

# RUBBER EXPORT

	KILOS					VALUE F. O. B. MIL. RÉIS					POUNDS STERLING					
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
	Manáos.....	14,089,623	13,176,624	12,990,975	14,033,845	56,104,773\$	59,956,751\$	70,850,060\$	66,494,665\$	3,506,548	3,106,515	3,542,503	3,499,720	3,506,548	3,106,515	3,542,503
Itacoatiara...	192,934	139,810	114,434	30,870	756,519\$	556,460\$	568,581\$	141,431\$	47,282	28,832	28,429	7,444	47,282	28,832	28,429	7,444
Belém do Pará.....	16,800,149	17,444,889	15,189,178	16,826,956	50,974,771\$	62,721,369\$	70,182,664\$	67,210,805\$	3,185,923	3,249,812	3,509,133	3,537,410	3,185,923	3,249,812	3,509,133	3,537,410
Maranhão...	63,022	35,208	51,665	33,427	154,608\$	114,355\$	235,972\$	163,331\$	9,663	5,956	12,798	8,596	9,663	5,956	12,798	8,596
Ilha do Cajueiro.....	363,042	30,349	4,685	3,906	919,326\$	48,554\$	16,667\$	11,933\$	57,458	2,515	833	628	57,458	2,515	833	628
Rio de Janeiro.....	38,855	81,149	28,199	154,120	124,229\$	355,576\$	126,730\$	1,136,000\$	7,764	18,424	6,336	59,789	7,764	18,424	6,336	59,789
Santos.....	8,403	5,239	42,259	4,263	10,902\$	22,911\$	197,470\$	21,315\$	6c2	1,187	9,873	1,122	6c2	1,187	9,873	1,122
Porto Murtinho.....	—	—	—	970	—	—	—	5,122\$	—	—	—	269	—	—	—	269
Corumbá....	494,824	637,196	443,902	482,889	1,484,364\$	2,122,583\$	1,914,856\$	2,248,822\$	92,772	109,980	95,742	118,560	92,772	109,980	95,742	118,560
Bahia and other ports.	1,480,637	3,614,844	2,629,404	2,408,600	3,068,827\$	9,886,570\$	8,126,480\$	6,553,569\$	191,802	512,257	406,324	345,030	191,802	512,257	406,324	345,030

## COTTON

The culture of cotton has now attained a high degree of importance in Brazil. As an item of exportation, it holds the seventh place, after coffee, rubber, mate, hides, cocoa and tobacco.

In 1912 the exportation of cotton reached 16.774 tons, representing a value of (L.b. 1.037.395) 15.560:935\$000.

But the greater part of the production is consumed within the country. With the exception of the agricultural industries, cotton spinning and weaving industry is at present the greatest, and one of the most prosperous, absorbers of capital in Brazil.

Unfortunately we have no statistics giving the exact figures of the home consumption of cotton in kilograms, and which might enable us to estimate exactly the total production.

But even so, the statistics which we have, show that there exist in Brazil, at present, 240 factories, the total production of which reaches, 470.783.355 metres of various stuffs.

We think there is no exaggeration in estimating, from these figures, *the total production of Brazil at 90 thousand tons of raw cotton, representing an average value of . . . . . \$56.000.000.*

It is clear that the development of cotton-raising in Brazil has been hitherto entirely due to the natural conditions of soil and climate, for the culture and preparation of this product has been carried on almost entirely by the most primitive methods.

This proves in a most eloquent manner that the soil and climate of Brazil are in many places privileged indeed for the culture of cotton. This fact, indeed, cannot be doubted, when we bear in mind that, in certain sections, as, for instance, the high table-lands of Rio Grande do Norte, the cotton plant, by purely natural means, attains to the size of a veritable tree, which, during a period of from 10 to 12 years, continues to bear almost unceasingly, the only interruption being during the short wet season of the year.

This fact, without a parallel in the annals of cotton growing, has excited the admiration of many specialists who have visited Brazil with a view of studying the natural conditions of this culture from the point of view of soil and climate. And this fertility, this exuberance of the vegetation of the plant, does not exclude those qualities which are most sought after in this product by the buyer and manufacturer.

The cottons of Maranhão are reputed among the best, as well as those of Alagoas and Pernambuco. As to those of Rio Grande do Norte, the Seridó cottons with long staple, supple and silky, are quoted in the foreign markets as a product of exceptional quality, and always command a higher price than any of the others.

Now, these several results, which are encouraging in the highest degree, as constituting an actual success, and which show that the cottons of Brazil have obtained a place of honor in the markets of the world, have been arrived at merely by natural conditions, without any selection of seed, choice of land or tillage of the soil, without, in short, any kind of method, and we might even say, in utter ignorance of the improvements which science has introduced in the culture and preparation of cotton in other countries, where their application, in otherwise adverse circumstances, has constituted the growing of cotton an industry of colossal importance.

The above-mentioned facts have long been the object of the special attention of the Minister of Agriculture.

A professional school, with a demonstration farm attached, has already been established, and is now at work in

the State of Paralyba do Norte; another will follow, within the budget resources.

A contract has been signed with Dr. Pedro de Almeida Godinho, in connection with the rational culture of the cotton plant and the preparation of cotton by the most modern and improved methods.

The Federal Experiment Station at Coroatá, in the State of Maranhão, is doing good work towards the improvement of the culture.

Professor Green, of the United States Department of Agriculture, came to Brazil in 1913, for the purpose of investigating our cotton species and varieties, and selecting those breeds which are capable of yielding the best returns. He opened a demonstration field at Coroatá, which is now under his direction, and which is expected to be very useful in many senses, and specially in effecting a proper selection of breeds and in keeping agriculturists in touch with the modern methods of culture. By Decree n. 11.475, of February 5th. 1914, a special Cotton Bureau has been established under this Ministry, Professor Green having been appointed Superintendent of the work.



## COTTON — EXPORT

	KILOS					VALUE F. O. B. MIL. REIS					POUNDS STERLING					
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
	Belém do Pará.....	3,965	—	10,326	17,111	3,680\$	—	23,140\$	54,807\$	245	—	1,157	2,888	—	—	1,157
Maranhão....	813,327	166,216	—	364,415	754,767\$	174,860\$	—	1,007,662\$	50,318	9,203	—	53,035	—	—	—	53,035
Ilha do Cajueiro.....	1,035,095	287,245	—	100,588	960,568\$	302,181\$	—	271,237\$	64,038	15,904	—	14,276	—	—	—	14,276
Fortaleza....	5,018,857	101,800	2,559	1,049,224	4,657,500\$	107,093\$	5,734\$	2,916,779\$	310,500	5,636	—	153,515	—	—	—	153,515
Natal.....	1,934,861	18,077	4,330	561,220	1,795,551\$	19,017\$	9,703\$	1,280,134	119,703	1,001	—	72,638	—	—	—	72,638
Cabedello....	6,873,559	149,136	—	241,728	6,378,663\$	156,891\$	—	616,336\$	425,244	8,257	—	32,440	—	—	—	32,440
Pernambuco..	12,498,643	4,504,829	1,011,495	3,539,074	11,227,540\$	4,739,081\$	2,236,760\$	9,784,642\$	748,503	249,425	113,338	514,981	—	—	—	514,981
Macció.....	1,648,285	—	—	—	1,529,608\$	—	—	—	101,974	—	—	—	—	—	—	—
Rio de Janeiro.....	15,525	—	39,419	13,512	14,397\$	—	88,340\$	45,651\$	960	—	—	2,403	—	—	—	2,403
Santos.....	6,632	266	2,813	4,244	6,154\$	280\$	6,300\$	11,503\$	410	15	315	795	—	—	—	795



# COTTON — SEED EXPORT

	KILOS						VALUE F. O. B. MIL RÉIS						POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
Belem (Pará).....	—	—	10,595	19,115	—	—	1,259\$	3,482\$	—	—	—	—	—	—	530	1,008
S. Luiz (Marranhão).....	953,650	—	2,355,541	3,218,043	76,293\$	—	224,210\$	355,967\$	5,086	—	—	—	—	—	11,210	18,756
Ilha do Cajueiro.....	790,178	616,170	715,931	4,866,373	63,214\$	49,292\$	66,137\$	530,440\$	4,215	2,554	—	—	—	—	3,366	27,918
Camocim.....	—	—	—	132,000	—	—	—	17,000\$	—	—	—	—	—	—	—	900
Fortaleza.....	992,654	—	—	6,487,653	38,500\$	—	—	746,253\$	2,566	—	—	—	—	—	—	39,277
Natal.....	1,245,910	—	567,475	582,700	109,663\$	—	74,764\$	61,754\$	7,310	—	—	—	—	—	3,738	3,250
Cabedello.....	6,651,929	2,504,500	5,269,849	2,835,530	475,090\$	207,713\$	688,749\$	288,014\$	31,672	10,762	—	—	—	—	34,437	15,160
Recife.....	13,695,360	6,360,637	2,561,286	2,636,853	992,966\$	525,911\$	337,572\$	231,534\$	66,197	27,250	—	—	—	—	16,878	12,186
Maceió.....	6,184,976	530,252	281,008	1,998,424	383,921\$	14,317\$	16,860\$	113,270\$	25,594	741	—	—	—	—	843	5,962
Aracaju.....	379,680	—	—	—	25,498\$	—	—	—	1,700	—	—	—	—	—	—	—
Bahia.....	165,609	5,968	—	115,290	12,008\$	400\$	—	23,048\$	800	21	—	—	—	—	—	1,213
Rio de Janeiro.....	—	—	122	—	—	—	—	18\$	—	—	—	—	—	—	—	—
Santos.....	—	—	—	120	—	—	—	—	—	—	—	—	—	—	—	0,16s



## CEREALS

On all the table-lands of the Brazilian States the Cereals grow at a very wonderful rapidity, with a great result for the growers.

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*WHEAT* — The cultivation of the wheat in the Southern States of Rio Grande do Sul, Santa Catharina, and Paraná was very intensive in the Colonial times.

Unfortunately this cultivation did not last a long time; it decreased and was abandoned in the beginning of the nineteenth century, on account of various diseases such as rust, carbuncle, and caries.

In 1900 however, new attempts were made with some success in the Southern States, in S. Paulo and in Minas Geraes, under modern methods.

The yield of the wheat in 1916 amount to more than 100.000 tons.

There are in Brazil some great Flour-Mills, such as The English Flour Mill at Rio de Janeiro, The Santista Mill and The Matarazzo Mill in the State of S. Paulo, and The Matarazzo Mills at Paranaguá and Antonina in the State of Paraná, which are supplied almost wholly with wheat coming from Argentina.

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*RICE* — It is far otherwise what concerns rice and other cereals culture.

In the States of Rio de Janeiro, S. Paulo, Minas, Rio Grande do Sul and Paraná the rice cultivation is very up-to-date.

To come to the proof of the increasing out-put of the rice yielding in the last years we only want to refer that the rice exportation in 1915 was of three tons while in 1917, the past year it was of about 40.000 tons.

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*MAIZE* — This grain is growing everywhere in Brazil, where also the soil is considered unfitted for other cultures.

There are more than twenty kinds of maize.

The States that export the largest quantity of maize are S. Paulo where the production is over 15.000.000 sacks per annum, Minas Geraes and Rio de Janeiro.

The difference between the maize exports in these last three years is very remarkable; while the exportation was quite not any in 1915, in 1916 it was scarcely of 3.108 tons, in the past year (1917) it amount to 25.506 tons.

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*BEANS* — The common food of the most classes in Brazil are the beans. Its kinds are very numerous but the most cultivated is that of a black colour. Beans growing is made in all States of Brazil. The yield of the beans was extraordinary increased these last three years in consequence, of course, of the European war.

The exportation of beans was of 276 tons in 1915, in 1916 it was of 34.884 and in 1917 this exportation amount to almost 100.000 tons.

## HIDES AND SKINS

The hides of oxen, sheep, goats, etc., constitute a considerable source of income, owing to the existence of a number of shoe-factories, etc., which supply products capable of competing with the best foreign manufactures.

The skins of wild animals might constitute an important article of exportation, not only for their beauty, but for other reasons; but, unfortunately, in the most cases, they are not offered for sale in perfect condition, which is generally due to bad shooting. It usually happens that hunters do not take into account the marketing of the hides, and consequently do not select the proper grade of shot, which should vary with the size of the animal, nor do they aim at determined parts of the body with a view to avoid damage to the skin.

But even so, the skins have a certain value, and are sometimes in demand, notwithstanding their defects. Among the skins of easiest sale are those of the *ratão dos banhados*, (*Mopotamus coypus*, Motina) and the *Quija of Paraguay* (*Myopotamus coypus*), which are sold in the foreign markets under the Spanish name for *American Beaver*. They appear every year in considerable quantities on the markets of Europe without any discrimination of origin.

*The Ratão da America* is the legitimate representative of the beaver of the Old World, and the fur of this animal, properly prepared, costs from 40 to 70 mil réis per kilogram. It is used in the manufacture of so-called beaver hats.

Among the skins of other animals, we shall mention those of *onças*, *antas*, wild-hogs, *lontras*, *tamanduás*, deer, etc., the last of which figure most in tables of exportation.

The prices of the various skins vary considerably, according to the species and condition. In Minas, the skin trade is somewhat extensive, especially in the Minas Triangle. The skins most in demand are : *onça* skins (price from 30 to 100 mil réis); *anta* skins, much sought after for their resistance, and used in the manufacture of saddles, harness, whips, sandals, etc. (price, from 1\$300 to 1\$400 per kilogram); *lontra* skins, which average 50 mil réis.

Deer skins are very much in demand, especially those of the *matteiro* species (*cervus rufus*, Cuv.), which reach 50 mil réis per dozen, they being considered superior to those of other deer, which are sold at from 3 to 5 mil réis each.

In all the States of Brazil, the skins of wolves, tamanduás (used for dust-brushes), wild-cats (very abundant along the shores of the São Francisco), *iráras* (used for making pistol and gun-cases), *capivaras* (held in high esteem by the backwoodsmen for making knee-boots), wild hogs (much esteemed for their resistance), and many others, have no fixed value, the price varying with the demand.

The silky skins, especially those of the tails of a number of monkeys, are used in France and England in the manufacture of muffs.

The principal monkey skins used for this purpose are those of : the black *guariba*, or bearded monkey (*mycetes niger*), the *muriqui* (*eriodes hypoxantus*, Desm), the *eia* (*nicoteptheucus trivirgatus*, Humb) the *prego*, or nail monkey (*cebubus mascephalus*, Lin), etc.

# HIDES — EXPORT

	KILOS					VALUE F. O. B. MIL RÉIS					POUNDS STERLING					
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
Manãos.....	363,903	490,879	406,044	386,796	300,081\$	445,128\$	397,052\$	55,125\$	18,755	23,063	403,317	480,088	18,755	23,063	403,317	480,088
Dacoutiára.....	24,398	7,848	29,532	12,604	23,712\$	8,248\$	8,461\$	19,025\$	1,482	429	24,772	26,794	1,482	429	24,772	26,794
Belem do Pará.....	794,254	1,028,263	1,129,731	945,100	6,940,08\$	1,063,080\$	1,728,654\$	1,607,20\$	39,942	55,113	89,476	99,248	39,942	55,113	89,476	99,248
S. Luiz do Maranhão	581,042	825,372	645,136	431,990	8,673,07\$	1,230,902\$	1,031,301\$	1,088,025\$	54,244	63,780	114,274	127,974	54,244	63,780	114,274	127,974
Ilha do Cajueiro.....	1,249,015	1,871,626	2,483,446	1,209,111	1,836,820\$	2,841,096\$	4,105,698\$	2,990,338\$	14,676	147,207	205,285	157,581	14,676	147,207	205,285	157,581
Camocim.....	1,358,512	4,797,388	4,273,929	1,746,883	1,943,078\$	7,785,184\$	9,201,757\$	3,853,395\$	121,498	403,317	480,088	202,821	121,498	403,317	480,088	202,821
Fortaleza.....	243,454	339,654	251,888	60,146	194,642\$	478,093\$	336,880\$	24,772	24,772	24,772	26,794	11,003	24,772	24,772	26,794	11,003
Natal.....	163,066	5,112,925	404,380	237,436	200,094\$	846,518\$	984,972\$	683,310\$	683,310\$	49,248	49,248	36,122	683,310	49,248	49,248	36,122
Cabedello.....	602,653	1,012,925	921,440	542,021	706,290\$	1,483,470\$	1,763,554\$	1,317,027\$	43,768	76,889	88,278	61,317	43,768	76,889	88,278	61,317
Recife.....	130,901	257,402	188,879	113,975	135,745\$	2,320,26\$	239,473\$	153,922\$	8,484	12,086	12,974	8,080	8,484	12,086	12,974	8,080
Maceió.....	4,604,166	6,694,548	7,734,748	6,232,947	6,135,889\$	14,653,669\$	17,438,355\$	13,384,350\$	38,349	760,827	896,918	736,630	38,349	760,827	896,918	736,630
Bahia.....	33,169	22,355	23,063	6,977	38,751\$	35,125\$	49,184\$	2,492	2,492	1,823	2,479	—	2,492	1,823	2,479	—
Victoria.....	6,837,018	6,939,850	13,939,252	10,874,200	4,344,049\$	9,351,272\$	16,214,756\$	14,500,173\$	271,703	484,520	810,778	763,167	271,703	484,520	810,778	763,167
Rio de Janeiro.....	514,472	2,116,079	2,530,382	2,368,902	460,244\$	2,852,521\$	3,522,213\$	3,347,785\$	28,765	147,800	176,111	176,200	28,765	147,800	176,111	176,200
Santos.....	173,595	31,116	—	6,977	272,880\$	—	—	12,921\$	17,065	—	—	960	17,065	—	—	960
Paranaaguá.....	39,269	72,351	69,117	10,849	80,041\$	106,568\$	108,657\$	21,676\$	5,002	5,421	5,433	1,141	5,002	5,421	5,433	1,141
Foz do Iguaçu.....	12,653	—	—	—	23,977\$	—	—	—	1,418	—	—	—	1,418	—	—	—
Florianopolis.....	—	—	6,840	28,300	—	—	—	503,743\$	—	—	—	—	—	—	—	—
Laguna.....	—	7,117,832	1,045,797	1,034,360	6,113,169\$	8,512,369\$	1,502,775\$	2,323,868\$	382,073	441,157	75,139	122,309	382,073	441,157	75,139	122,309
Rio Grande.....	1,569,332	800,066	6,935,514	2,163,061	889,981\$	1,208,240\$	10,842,833\$	4,804,529\$	55,624	62,602	542,129	252,870	55,624	62,602	542,129	252,870
Pelotas.....	154,492	75,051	121,898	42,110	86,979\$	109,146\$	236,526\$	130,302\$	5,436	5,655	11,826	6,558	5,436	5,655	11,826	6,558
Porto Alegre.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Santa Victoria do Palmar.....	80	3,808	354	—	145\$	7,810\$	2,480\$	—	9	405	124	—	9	405	124	—
Jaguaraõ.....	—	2,060	101,635	—	—	4,123\$	149,248\$	—	—	—	—	—	—	—	—	—
Sant'Anna do Lavra- mento.....	—	6,166,715	4,714,131	465,452	—	8,342,878\$	8,421,783\$	1,056,644\$	31,080	42,274	60,337	55,613	31,080	42,274	60,337	55,613
Quarary.....	870,455	777,651	840,377	8,710	497,287\$	1,621,066\$	1,206,738\$	1,871,867\$	19,353	61,932	93,593	1,029	19,353	61,932	93,593	1,029
Uruguayana.....	—	1,015,401	483,581	595,576	—	1,326,543\$	1,037,814\$	1,363,626\$	42,945	53,190	51,891	71,769	42,945	53,190	51,891	71,769
Itaquí.....	1,218,978	740,018	483,581	595,576	687,122\$	630,408\$	923,211\$	—	—	—	—	—	—	—	—	—
S. Borja.....	—	366,828	516,728	—	—	—	—	—	—	—	—	—	—	—	—	—
Porto Esperança.....	—	—	—	305,969	—	—	—	—	—	—	—	—	—	—	—	—
Porto Murinho.....	936,105	1,042,232	1,181,374	806,505	682,063\$	1,136,013\$	1,367,211\$	2,460,389\$	42,630	58,800	68,361	129,494	42,630	58,800	68,361	129,494
Corumbá.....	755,598	933,344	1,433,412	1,421,181	1,142,849\$	1,577,933\$	2,193,651\$	—	71,428	71,428	104,683	—	71,428	71,428	104,683	—



# SKINS — EXPORT

	KILOS					VALUE F. O. B. P. MIL. RÉIS					POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917		
Maniões.....	6,293	6,470	7,702	10,426	8,557\$	10,560\$	14,638\$	21,433\$	535	544	732	1,128		
Belem do Pará.....	69,383	83,209	98,883	184,431	97,181\$	157,413\$	329,875\$	798,710\$	6,074	8,156	16,044	42,037		
S. Luiz do Maranhão	52,886	73,228	74,138	36,229	75,393\$	176,873\$	247,114\$	141,358\$	4,706	9,164	12,356	7,440		
Ilha do Cajueiro....	39,537	94,858	173,796	—	108,333\$	151,963\$	290,150\$	—	6,771	7,874	14,508	—		
Fortaleza.....	588,172	1,089,272	612,970	413,012	2,692,900\$	3,199,960\$	2,512,900\$	2,420,814\$	130,806	165,782	125,645	153,727		
Natal.....	205,136	153,642	79,507	9,006	58,914\$	44,436\$	37,696\$	92,302\$	36,822	28,216	18,849	4,858		
Cabedello.....	185,053	500,085	352,716	15,438	613,799\$	1,576,602\$	2,009,321\$	1,218,818\$	38,480	81,662	100,466	64,150		
Recife.....	255,621	501,719	417,589	336,964	762,076\$	1,671,598\$	2,374,574\$	2,636,737\$	47,630	86,593	118,789	138,250		
Maceió.....	485,778	863,300	791,233	359,826	1,829,761\$	2,940,802\$	2,949,749\$	1,299,930\$	114,360	153,414	137,487	68,420		
Bahia.....	581,883	1,152,442	983,562	1,235,377	1,956,312\$	3,783,976\$	4,302,672\$	10,724,910\$	122,270	196,164	223,104	564,470		
Victoria.....	—	—	—	—	—	—	205	—	—	—	—	—		
Rio de Janeiro.....	43	40,160	141,984	31,709	420\$	153,070\$	777,483\$	248,702\$	27	7,931	38,874	13,060		
Santos.....	570	5	12,238	10,937	77\$	100\$	55,018\$	43,035\$	48	5	2,761	2,265		
Rio Grande.....	351	437	1,782	1,956	295\$	72\$	2,395\$	1,697\$	18	37	130	89		
Pelotas.....	3,496	577	4,783	—	2,724\$	1,495\$	20,000\$	—	170	77	1,000	—		
Porto Alegre.....	6,230	4,084	412	—	815\$	1,775\$	824\$	—	51	92	41	—		
Santa Victoria do Palmar.....	2,273	1,033	1,516	—	1,288\$	1,702\$	2,351\$	—	81	88	118	—		
Sant'Anna do Livra- mento.....	—	1,105	362	—	—	2,863\$	688\$	—	—	148	34	—		
Quaraby.....	210	77,579	2,134	—	168\$	127,310\$	4,293\$	—	10	6,600	211	—		
Uruguayana.....	—	89,269	42,129	—	—	146,294\$	84,128\$	—	—	7,380	4,206	—		
Itaquí.....	600	25,612	11,082	1,594	1,200\$	42,123\$	21,666\$	2,199\$	73	2,182	1,083	115		
S. Borjá.....	—	5,191	23,973	—	—	8,867\$	51,831\$	—	—	460	2,592	—		
Porto Murтинho....	157	489	123	743	446\$	1,063\$	743\$	1,644\$	28	55	37	86		
Corumbá.....	2,871	2,583	3,442	812	5,773\$	6,430\$	8,083\$	3,210\$	361	334	404	169		



## SUGAR

After coffee and rubber, sugar is the product which contributes most to the receipts of the country.

Sugar-cane finds in Brazil wonderful conditions of adaptability, and sugar alone, were it exploited to its full extent, would bring to Brazil returns unequalled in any other part of the globe.

Introduced a few years after the discovery of Brazil, sugar cane was cultivated simultaneously in Pernambuco and S. Paulo. During a long period, the production of Brazil held sway in the markets of the world. There are places where the same variety of sugar-cane has been grown continually for more than two hundred years, without any attempt on the part of the planters to restore to the soil the fertilizing elements thus incessantly withdrawn. Consequently, the returns per hectare have decreased until, at the present day, the total sugar production of Brazil does not exceed 300,000 metrical tons.

The starting of the culture in the west Indies, in Central America, and in other parts of the world, and the manufacture of beet-sugar in the beginning of last century, contributed to the fall of Brazil from the first place to the sixth, among the sugar producing countries. But these were not the only causes. The growing of sugar-cane in Brazil with rare exception, is carried on by antiquated and anti-economical methods.

We have not yet any industrial establishments possessing the requisite elements for the extraction from the cane of a percentage of sugar equal to that obtained in Hawaii, Cuba, Java, Louisiana, etc.

In order to promote the expansion of the sugar-cane industry, the Government has adopted a number of measures, among which we shall mention the creation of experiment stations, intended to provide practical information to planters.

The States in which the culture of sugar-cane is most developed are Pernambuco, Ceará, Parahyba, Rio Grande do Norte, Alagôas, Sergipe, Espírito Santo, Minas Geraes, Maranhão, Rio de Janeiro, and S. Paulo. But sugar-cane is cultivated in all the remaining States, although on a smaller scale than in the above region, the Brazilian Northeast.

## SUGAR - CANE

	Tons of Cane per hectare. 2 1/2 acres.	Proportion of Sugar, per cent.
Egypt (with irrigation).....	38.5.....	11 to 15
Argentina.....	40 .....	11 to 12
Java, intense culture.....	80 .....	14 to 15.5
Sandwich Islands.....	82 .....	15 to 15.5
Louisiana.....	50 .....	11 to 13
Cuba.....	50 .....	13 to 15
Demerara.....	62 .....	— —
Queensland.....	46 .....	— —
São Paulo (Brazil).....	50 .....	13 to 14.5
Campos (Rio de Janeiro).....	50 .....	14.5 to 15.5
Pernambuco (Brazil).....	50 .....	11 to 12.1
Parahyba (Brazil).....	40 .....	11 to 12.1
Sergipe (Brazil).....	54 .....	11 to 12.5
Rio Grande do Norte (Brazil).....	50 .....	11 to 12.0
Alagôas (Brazil).....	55 .....	12 to 15.0
Bahia (Brazil).....	45 .....	11 to 12.0

# SUGAR EXPORT

	KILOS				VALUE F. O. B. MIL RÉIS				POUNDS STEELING			
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
Manaos.....	5,250	3,000	210	580	3,745\$	1,500\$	168\$	580\$	234	77	8	31
Belem.....	2,500	1,505	82,162	8,951	1,250\$	660\$	65,868\$	8,780\$	78	34	3,233	462
S. Luiz (Maranhão)....	—	86	2,250	5,220	—	40\$	995\$	3,925\$	—	2	50	207
Ilha do Cajueiros.....	—	—	360	—	—	—	240\$	—	—	—	12	—
Fortaleza....	—	—	130	130	—	—	90\$	100\$	—	—	4	5
Natal.....	101,210	89,760	161,150	379,968	20,251\$	16,329\$	54,531\$	87,773\$	1,265	846	2,726	4,620
Cabedello....	—	30,000	—	2,084,215	—	5,490\$	—	556,242\$	—	284	—	29,276
Pernambuco.	22,828,741	37,981,653	34,080,696	75,149,559	4,668,939\$	9,331,901\$	14,372,524\$	33,551,493\$	291,808	483,318	718,626	1,765,870
Maceió.....	5,076,307	17,401,536	1,891,339	5,695,413	856,312\$	3,665,832\$	600,476\$	1,927,368\$	53,519	189,940	30,024	101,441
Bahia.....	214,050	1,774,612	2,791,076	9,599,680	77,508\$	668,575\$	1,699,598\$	6,152,917\$	4,844	34,640	84,980	323,840
Rio de Janeiro.....	3,632,104	1,701,166	14,560,307	36,013,374	1,137,710\$	696,224\$	8,597,917\$	24,774,322\$	71,107	36,073	429,896	1,303,912
Santos.....	60	3,000	3,623	2,034,429	30\$	1,500\$	2,440\$	1,404,037\$	2	77	122	73,897
Itajahy.....	—	—	—	12,000	—	—	—	4,812\$	—	—	—	254
Florianopolis.	—	18,000	183,000	324,000	—	8,793\$	128,118\$	160,608\$	—	455	6,406	8,454
Ports of Rio Grande do Sul.....	120	165,935	681,661	199,198	72\$	87,224\$	443,765\$	136,479\$	4	4,520	22,188	7,182



## HERVA MATE

*Mate* or *Herva Mate*, is a product of South America, obtained from the leaves and twigs of the «congonha» tree, *ilex mate*, *ilex paraguayensis*, of the family of the *Ilicineas* or *Ilicaceas*.

The full-grown, cultivated, mate-tree bears a certain resemblance to the orange-tree. It is leafy and elegant, and measures about eight metres in height. Its leaves are subcoriaceous, oblong, lanceolate and of varying size.

According to *Martius*, Mate grows best between 20 and 30 degrees of lat., which corresponds in Brazil to the south of Matto Grosso and Minas, and the whole of São Paulo, Paraná, Santa Catharina and Rio Grande do Sul. But there is no doubt that the most important Mate State in Brazil is Paraná, after which follow in order Matto Grosso, Rio Grande do Sul, Santa Catharina, S. Paulo, etc.,

*Production of Mate* — The total production of Mate has been estimated by the French commissioner M. Barbier, at 50,000,000 kilos per year. The State of Paraná alone produces more than three fifths of all the Mate consumed in the world, and only a part of its *herva* fields are being exploited.

The total Mate exports of the State is estimated at more than 30,000,000 kilos per annum.

*Price of Mate* — The mate industry being purely extractive, and not involving expenses of cultivation, it is comparatively cheap. A kilo of Mate in Paraná costs from 300 to 500 réis, that is, from 10 to 16  $\frac{2}{3}$  cents.

Mate is usually exported in pine kegs and barrels, cardboard packets and small tins. The Paraná product is equal

in quality to the best Paraguay, to which it is superior in preparation and packing.

*Properties and uses* — Mate is the true succedaneum of tea whose virtues it possesses without its defects.

It is a stimulant tonic, which property renders it an excellent drink for the sick and for convalescents.

A hygienic and harmless beverage, Mate is certainly a good substitute for alcoholic drinks and a powerful weapon in the hands of temperance societies against the greatest scourge of mankind drunkenness.

Mate is mildly laxative, and is diaphoretic and diuretic. It stimulates torpid nutrition and activates the bodily functions. It excites the muscular energy, accelerates the pulse and respiration, and induces a sense of well-being and increased intellectual lucidity and vigor.

# HERVA MATE — EXPORT

	KILOS					VALUE F. O. B. MIL REIS					POUNDS STERLING		
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917	
	Rio de Janeiro .....	23,604	24,614	8,320	13,479	12,537\$	13,458\$	4,371\$	7,173\$	783	697	218	377
Santos .....	1,415	45,082	113,493	133,266	1,050\$	29,247\$	60,084\$	70,123\$	65	1,315	3,004	3,690	
Antonina .....	25,019,443	36,877,641	31,337,184	15,113,838	12,250,342\$	18,466,188\$	16,826,842\$	8,477,450\$	756,646	956,797	841,342	446,182	
Paranaguá .....	15,819,308	17,095,056	15,770,037	18,517,743	7,678,900\$	8,622,204\$	8,489,366\$	10,452,157\$	479,931	446,746	424,478	550,113	
Fóz do Iguas-sú .....	6,444,683	8,115,881	9,779,924	6,588,796	3,161,169\$	4,090,809\$	5,250,284\$	3,612,408\$	197,573	211,949	261,514	190,126	
S. Francisco .....	6,280,007	9,468,832	11,334,791	12,612,070	2,323,604\$	3,503,463\$	5,050,441\$	7,314,993\$	145,225	181,523	252,522	384,999	
Itajahy .....	—	3,516	—	—	—	828\$	1,110\$	—	—	42	—	—	
Florianopolis .....	—	—	3,000	—	—	—	6,660\$	15,600\$	—	—	353	824	
Laguna .....	—	—	18,000	27,000	—	—	—	17,209\$	—	—	—	905	
Pelotas .....	—	—	—	48,725	—	—	—	—	—	—	—	69,855	
Porto Alegre .....	5,016,732	4,095,389	4,619,700	4,479,431	1,382,355\$	1,058,014\$	1,290,125\$	1,327,244\$	86,410	54,819	64,506	—	
Santa Victoria do Palmar .....	—	59,813	27,078	40,068	—	15,911\$	7,605\$	12,105\$	—	824	380	637	
Juguarão .....	—	23,136	—	67,217	—	5,885\$	—	23,796\$	—	305	—	1,252	
Santa Anna do Livramento .....	—	149,683	—	—	—	42,211\$	—	—	—	2,187	—	—	
Quarahy .....	—	27,435	—	—	—	7,737\$	—	—	—	401	—	—	
Uruguayana .....	—	204,978	485,148	640,111	—	57,302\$	138,344\$	196,189\$	—	2,970	6,917	10,431	
Itaquy .....	20,350	63,831	54,353	69,912	5,581\$	17,609\$	15,459\$	17,588	348	912	773	925	
S. Borja .....	11,245	74,631	—	—	2,816\$	21,046\$	—	—	176	1,090	—	—	
Nhu-Verá .....	650,800	22,400	—	—	404,411\$	15,770\$	—	—	25,275	817	—	—	
Corumbá .....	—	—	995	292	—	—	6,34\$	210\$	—	—	32	11	





# THE COCOA-BEAN

## (CACAU)

The *habitat* of the cocoa-bean in Brazil lies between 23° N. lat. and 22° lat. S. and embraces the States of Bahia, Sergipe, Espirito Santo, Pernambuco, Rio Grande do Norte, Ceará, Piauhy, Maranhão, Amazonas, Pará, and Rio de Janeiro.

Ten varieties are cultivated in these zones. In Bahia, which is the greatest producer of the cocoa-bean, the three following varieties are grown :

Cacau do Pará and Cacau Maracajú, which thrive prodigiously all over the State.

In reponse to the demands of the world's consumption, the culture of the cocoa-bean in Brazil has increased amazingly, extending over a vast area.

The chief port of exportation is Bahia, and the next in order, Pará.

The product is exported in the grain, in bags, after the proper processes of preparation.

Brazilian cocoa is now held by consumers to be the best in the world.

The establishment of systematic cultures, which has already been started in several States, and the favors which the Government is wisely extending to this product, will shortly render Brazil one of the largest producers of Cocoa in the world.

# COCOA — EXPORT

	KILOS				VALOR F. O. B. MIL REIS				POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
	Manaos.....	132,866	123,963	128,763	242,739	81,095\$	113,400\$	137,795\$	181,126\$	5,068	5,875	6,890
Itacoatiara....	902,327	577,731	469,616	221,863	541,143\$	497,871\$	492,021\$	182,435\$	33,821	25,796	24,601	9,602
Obidos.....	77,820	—	—	—	47,236\$	—	—	—	2,952	—	—	—
Belem do Pará	2,895,810	3,542,858	2,775,175	4,255,067	1,836,188\$	3,516,354\$	3,290,561\$	3,811,681\$	114,762	182,194	164,528	200,614
S. Luiz do Maranhão....	9,364	5,926	4,062	5,210	7,963\$	5,063\$	4,027\$	4,343\$	498	262	201	229
Fortaleza.....	2,474	1,885	1,122	1,771	2,029\$	2,500\$	2,200\$	2,150\$	127	139	110	113
Recife.....	20,192	206,252	213,841	2,288	13,319\$	182,282\$	177,814\$	1,657\$	832	9,445	8,890	87
Bahia.....	36,345,421	37,124,603	36,723,315	44,537,063	27,810,208\$	47,557,936\$	41,754,443\$	37,495,015\$	1,738,138	2,463,105	2,087,722	1,973,422
Victoria.....	2,166	3,083	2,004	6,600	1,289\$	3,316\$	3,509\$	6,760\$	80	172	175	356
Rio de Janeiro.....	378,000	3,393,673	3,379,560	6,203,918	302,400\$	4,280,826\$	4,481,574\$	6,253,207\$	18,900	221,804	224,078	329,116
Santos.....	—	—	22,560	145,320	—	—	27,229\$	46,000\$	—	—	1,361	2,421

## TOBACCO

The Tobacco-plant has been cultivated and exported from Brazil from time immemorial, and during the last three centuries it has been one of the most important articles of production.

Its culture is effected on a large scale in the States of Bahia and Rio Grande do Sul, and on a smaller scale in Rio de Janeiro, Minas Geraes, S. Paulo, Goyaz, Paraná etc.

The largest exportation of Tobacco is from the State of Bahia, in the leaf. Cigar-making and the preparation of Tobacco have made enormous progress in Brazil during recent years, the cigars of several factories of Bahia and Rio Grande do Sul being so good that connoisseurs are often in doubt whether to prefer the Havana or the pure Bahia.

The largest buyer of Brazilian Tobacco is Germany which in 1912 imported 19,236,000 kilos of Tobacco, equivalent to  $\frac{2}{3}$  of the total exports.

If we consider the growing importance of Tobacco raising in Brazil, especially in the State of Bahia, and the excellent methods of culture now being adopted, we cannot fail to foresee that the production will shortly be trebled, while the quality of the product will be improved to a degree that will place it on the same level with that of Havana.

## TOBACCO — EXPORT

	KILOS				VALUE F. O. B. MIL RÉIS				POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
Belem do Pará	776	318	4,455	—	2,030\$	930\$	15,592\$	—	126	48	780	—
Recife.....	—	—	89,817	7	—	—	130,485\$	35\$	—	—	6,324	1,16
Bahia.....	26,192,882	26,223,401	19,219,364	22,237,361	22,906,915\$	21,745,572\$	27,982,529\$	18,635,795\$	1,431,682	1,126,725	1,349,126	983,990
Rio de Janeiro.....	79,503	177,052	1,176,132	483,524	83,620\$	210,019\$	1,408,265\$	742,655\$	5,245	10,882	70,410	39,087
Santos.....	—	127,305	72,820	956,142	—	97,029\$	97,790\$	1,400,824\$	—	5,027	4,889	73,727
S. Francisco.	164,681	142,753	202,155	135,847	135,721\$	105,750\$	131,949\$	70,568\$	8,357	5,480	6,597	3,714
Itajahy.....	216,150	97,500	77,781	126,020	175,512\$	74,100\$	43,910\$	65,753\$	10,970	3,839	2,135	3,460
Florianopolis	—	37,500	5,771	10,042	—	28,500\$	8,291\$	16,830\$	—	1,476	415	886
Ports of Rio Grande do Sul.....	3,6440	617,672	449,996	1,810,164	282,749\$	713,092\$	503,631\$	2,455,634\$	17,672	36,948	25,183	128,713

## WOOL

The manufacture of woollen goods is the source of vast wealth and an incentive to the governments of wool-producing countries to improve their breeds of sheep by all possible means.

Brazil has not overlooked the importance of the wool problem, and is putting forth many efforts to increase the production and improve the quality.

Our wool industry is in an incipient stage, it is true, but we already have a number of good factories, among which we shall mention those of Rio Grande and São Paulo.

Thanks to the development of sheep-raising, favored by the Government in the reduction of duties, the rising industry exhibits fair results, as may be seen from the following figures from the State of Rio Grande do Sul :

# WOOL — EXPORTS

	KILOS					VALUE F. O. B. MIL REIS					POUNDS STERLING					
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
	Portaleza.....	—	—	237	—	—	—	200\$	—	—	—	—	—	—	—	10
Recife.....	—	105	4,787	10,583	—	472\$	4,805\$	42,064\$	—	—	—	—	—	24	240	2,213
Rio de Janeiro.....	680	11,306	5,080	—	647\$	16,011\$	8,733\$	—	40	829	437	—	—	—	—	—
Santos.....	—	455	1,012	2,500	—	600\$	3,828\$	12,805\$	—	—	—	—	—	31	191	674
Rio Grande.....	1,037,303	277,962	—	—	939,747\$	468,910\$	—	—	58,734	24,296	—	—	—	—	—	—
Pelotas.....	14,953	89,854	49,912	67,444	13,562\$	157,679\$	114,679\$	231,345\$	847	8,164	5,733	—	—	—	—	12,181
Porto Alegre.....	—	—	239	—	—	—	326\$	—	—	—	—	—	—	—	26	—
S. Victoria do Palmar	15,175	22,336	4,100	—	13,791\$	40,962\$	7,245\$	—	862	2,122	362	—	—	—	—	—
Jaguarião.....	—	3,000	—	9,095	—	5,487\$	—	35,523\$	—	—	—	—	—	284	—	1,869
Sant'Anna do Livramento.....	—	459,154	569,535	—	—	839,798\$	2,562,907\$	—	—	—	—	—	—	43,512	128,145	—
Quarahy.....	—	234,631	198,333	—	—	429,140\$	892,581\$	—	—	—	—	—	—	22,235	44,629	—
Uruguayana.....	—	358,173	400,200	—	—	654,842\$	1,695,388\$	—	—	—	—	—	—	33,330	84,799	—
Itaqui.....	41,900	121,628	76,755	137	38,003\$	218,357\$	233,161\$	516\$	2,375	11,545	11,658	—	—	—	—	27
S. Borja.....	—	79,004	7,108	—	144,408\$	794\$	31,986\$	—	—	—	—	—	—	7,487	1,599	—
Porto Murtinho.....	401	627	—	419	364\$	—	—	1,611\$	21	41	—	—	—	—	—	85
Corumbá.....	70	909	667	879	633\$	1,232\$	945\$	3,083\$	4	64	47	—	—	—	—	162

## GOLD

Gold has been found in all the States of Brazil, either in alluvial deposits, or veins. But, as it has been observed by Baron von Eschwegge, all the important deposits are grouped about the three great southern mountain ranges, which so to speak, form the skeleton of the country. The Mantiqueira range, which starts in São Paulo, and from which springs the Espinhaço chain, in the South and North of the State of Minas, enters Bahia and ends in Pernambuco. In the second place, the great ridge, which divides the waters of the São Francisco from those of the River Plate, serves as dividing line between Minas and Goyaz, through Piauh and terminates in Ceará. The third extends along the left shore of the Araguaya and Paraguay; to this range belongs the chain of Parecis, in Matto Grosso.

The mines which have been exploited most are those of the Espinhaço chain and are grouped about a line, running from Barbacena, in Minas, to the town of Jacobina, in Bahia, and covering a length of 1,200 kilometers.

The gold beds hitherto exploited in Minas may be grouped about the three following types: veins of pyrites, veins of quartz, and beds of auriferous itabirite.

There are at present very few mines in regular exploitation. But in the XVIII century and in the beginning of the last, the mines above referred to yielded fabulous returns to the crown of Portugal and to private parties.

We give below a list of the companies which have undertaken the exploitation of mines in the State of Minas, which is held to be the richest :

Saint John d'El-Rey Mining Company, Ltd.; Ouro Preto Gold Mining Company, Ltd.; S. Bento Gold Estates, Ltd.; Lathom Gold Mining, Rotulo Ltd.; Penna Irmãos & Dias, Companhia Aurifera de Minas Geraes; Ouro Preto Gold Mines of Brazil, Ltd.; Santa Barbara Gold Mining Company, Ltd.; Empresa de Mineração de Caeté: East d'El-Rey Mining Company, Ltd.; Companhia Brasileira de Salitras, Terras e Construções.

Besides the companies carrying on regular exploitation, there are numerous individuals, called «faiscadores», or fossickers, especially in the North of Brazil, who occupy themselves with gold mining. They sell the gold in dust or nuggets to the local gold-smiths and merchants, by whom it is made up into jewelry, or shipped to Rio de Janeiro.



# GOLD — EXPORTS

	GRAMMES				VALUE F. O. B. MIL RÉIS				POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
S. Luiz do Maranhão.....	9,005	35,200	5,500	—	13,535\$	74,998\$	11,851\$	—	958	3,886	592	—
Rio de Janeiro.....	4,041,756	4,529,323	4,372,503	4,474,770	7,196,381\$	9,487,881\$	9,530,521\$	8,963,816\$	444,216	491,600	493,810	473,000



## TIMBER

Brazil is without any possible contestation the country which possesses the most precious timber for general construction and ship-building, and for the manufacture of manure and other articles. A country of varied and luxuriant flora in diverse climates and zones of vegetation, Brazil possesses a multitude of timbers, which are highly appreciated for their resistance, beauty and durability.

The importance of this timber does not consist only in the hardness of the wood; in many species the grain is so beautiful and wavy that it appears engraved by skilful artists. Other species emit an odor of such sweetness and intensity that they seem to be the reservoirs of pure essences prepared by famous chemists.

All the States possess timber of superior quality, but some of them are uncommonly rich in valuable species and varieties, as Amazonas, Pará, Matto Grosso, Bahia, Espírito Santo, Rio de Janeiro, Minas Geraes and Paraná.

In proof of the wealth of the forests of Brazil it is sufficient to mention the S. Louis Exhibition, in North America, where the samples of timber excited the enthusiasm of the American people, and where the Press declared Brazil the richest forest country in the world.

The timber trade, however, has not yet attained to a high degree of development; owing to difficulties of transportation, costly rates and a lack of good ports for quick loading and shipping.

In this brief notice we shall not omit to mention some of the most appreciated species of the timber of Brazil.

Angico, Cedro, Canella, Copalyba, Jequitibá, Jacarandá, Nogueira, Pau-rosado, Peroba, Pinheiro, Quebracho and Sapucaia.

# TIMBER — EXPORTS

	VALUE F. O. B. MIL REIS				POUNDS STERLING			
	1914	1915	1916	1917	1914	1915	1916	1917
Belem do Pará.....	15,095\$	59,420\$	263,300\$	492,254\$	943	3,078	13,165	25,908
Ilha do Cajueiro.....	50\$	298\$	2,474\$	—	3	15	124	—
Portaleza.....	2,000\$	500\$	2,000\$	—	125	26	100	—
Natal.....	—	—	30,446\$	3,281\$	—	—	1,522	173
Recife.....	2,960\$	—	2,779\$	—	185	—	139	—
Bahia.....	113,101\$	62,806\$	13,606\$	—	7,068	3,254	680	—
Victoria.....	287,092\$	278,635\$	118,650\$	264,615\$	17,943	14,406	5,933	13,927
Rio de Janeiro.....	149,906\$	27,105\$	218,242\$	118,772\$	9,369	1,404	10,912	6,251
Santos.....	560\$	2,950\$	3,200\$	9,000\$	35	152	100	473
Paranaguá.....	565,263\$	1,845,610\$	4,607,660\$	3,070,790\$	35,331	95,627	230,383	101,620
Antonina.....	34,726\$	48,246\$	102,495\$	20,534\$	2,170	2,500	5,125	1,081
Foz do Iguaçu.....	100,903\$	31,286\$	16,742\$	57,550\$	6,306	1,621	837	3,030
S. Francisco.....	—	6,817\$	16,127\$	805,491\$	—	353	806	42,394
Rio Grande.....	200\$	—	4,140\$	104,610\$	12	—	207	5,506
Pelotas.....	—	—	—	720\$	—	—	—	38
Porto Alegre.....	15,251\$	18,714\$	632,363\$	252,998\$	953	970	31,618	13,316
Santa Victoria do Palmar.....	1,036\$	530\$	2,408\$	2,334\$	64	27	120	123
Jaguarião.....	—	1,112\$	14,444\$	14,444\$	—	57	—	760
Uruguayana.....	—	11,945\$	181,501\$	148,543\$	—	619	9,075	7,818
Itaquí.....	—	280\$	1,362\$	123\$	—	14	68	7
Porto Murtinho.....	—	900\$	27,316\$	44,366\$	783	—	1,376	2,335
Corumbá.....	12,520\$	—	1,800\$	—	—	—	90	—



## IRON

In colonial times, the Government of Portugal established two iron factories in Brazil, one at Ipanema (S. Paulo) and the other at Morro do Pillar (Minas), but without success, owing to bad management.

The most important factories in existence at the present day are: the Usina Esperança and the Usina Wigg.

The iron ores known in Brazil are the oxides. The carbonate of iron occurs rarely in some gold mines, together with the carbonate of lime. In the Morro Velho Gold mines, for instance, we find carbonate of lime and carbonate of iron.

Iron is abundant in S. Paulo, Santa Catharina, Espírito Santo, Bahia, Matto Grosso, Goyaz, Minas and Rio de Janeiro.

In the State of Minas in often happens that the ores do not form layers, but veritable mountains, which are in general sensibly pure. These ores consist of hematite which is expressed when pure by the formula  $Fe_2O_3$ .

The best known magnetite mines are in the State of S. Paulo, at Ipanema, in the neighbourhood of the works of the same name, which possess two furnaces. The ore extracted in the vicinity of the furnaces contains 67 % iron.

In Minas Geraes, in the vicinity of Sabará, there are enormous layers of hematite, capable of supplying the iron industry for many years.

Near Hargreaves Station, on the Ouro Preto Railway, the hills are covered by large masses of hematite.





# THE INDUSTRIES



## THE INDUSTRIES

The industrial movement in Brazil has increased sensibly in the course of the last 20 years, especially in the Federal District and in São Paulo, Rio de Janeiro, Rio Grande do Sul, Pernambuco, Paraná, Sergipe, Bahia and Ceará.

It is clear that, in a short notice like this, we can merely mention the most important and financially strongest of our industries, such as :

Cotton, embracing calico and prints ; wool, including fine stuffs ; cigars, cigarettes ; beer, wine and other fermented beverages ; rum and other forms of alcohol ; maize and manioc farinas ; shoes, carriages and wagons, diamond lapidation, articles of gold and silver, matches, roping, cheese, butter, jerked beef, chilled and freezed meat, preserves, chocolate, oils, vinegar and liquors, tea, mate, ground coffee, salt fish, gum elastic, hats, crockery and earthen ware, varnished leather and morrocco, glass, optical and nautical instruments, etc.

Cattle raising is carried on a large scale, especially in Rio Grande do Sul, Minas, Goyaz, Matto Grosso and Ceará.

The Federal District is the most important industrial center of Brazil.

## GENERAL TABLE OF THE STATISTICS

## of the industries in Brazil

STATES	NUMBER OF LARGE ESTABLISHMENTS	CAPITAL IN MIL REIS	PRODUCTION IN MIL REIS	NUMBER OF WORKMEN
Alagoás.....	47	10.957:887\$000	10.496:310\$008	3.855
Amazonas.....	93	6.484:000\$000	14.962:000\$000	1.267
Bahia.....	83	28.377:200\$000	25.990:962\$000	10.009
Ceará.....	24	6.484:000\$000	3.423:500\$000	11.353
Districto Federal....	895	188.442:259\$000	255.164:542\$000	40.331
Espirito Santo.....	8	1.251:000\$000	1.209:500\$000	400
Goyaz.....	135	1.617:000\$000	2.471:000\$000	838
Maranhão.....	19	13.540:250\$000	7.640:332\$000	4.595
Matto Grosso.....	16	13.650:000\$000	4.450:000\$000	3.870
Pará.....	55	11.503:000\$000	18.223:000\$000	2.544
Parahyba do Norte..	43	4.990:500\$000	4.394:912\$000	1.465
Paraná.....	302	21.152:000\$000	33.940:294\$000	4.824
Minas Geraes.....	552	29.307:372\$000	36.190:694\$000	10.091
Pernambuco.....	126	60.229:000\$000	57.676:293\$000	12.388
Piauly.....	3	1.310:878\$000	1.192:975\$000	355
Rio Grande do Norte	43	6.921:000\$000	3.094:485\$000	2.063
Rio Grande do Sul..	328	47.448:919\$000	102.678:820\$000	15.907
Rio de Janeiro.....	248	83.830:457\$000	59.540:868\$000	13.994
Santa Catharina....	174	9.689:000\$000	14.169:410\$000	2.106
São Paulo.....	384	166.057:191\$000	140.078:021\$000	33.252
Sergipe.....	103	14.172:858\$000	14.811:105\$000	3.027
	3.664	727.719:771\$000	811.798:008\$000	168.764

## TRANSPORTATION

It were difficult to mention a nation putting forth more energies and undergoing greater sacrifices than Brazil has done in the last years, in connection with the improvement of communications, whether by land, by sea or by river.

### RAILWAYS

On the 31<sup>st</sup>. of December 1917, the length of railways in traffic was 27.608 kilometers and 632 meters.

There were also at that time 3.577 kilometers and 314 meters of lines in construction, and 7.559 kilometers and 299 meters, the definite studies of which had been approved.

The figures for the same date, 1913, were: total length in traffic, 24.613 kilometers and 989 meters; in construction, 5.527 kilometers and 258 meters; studies approved, 7.438 kilometers and 397 meters.

The following table shows the progressive construction of railways in Brazil since 1854, it being worthy of remark that this progress has increased since 1907.

## TABLE

YEAR	KILOMETERS	YEAR	KILOMETERS
1854.....	14.500	1869.....	736.840
1855.....	14.500	1870.....	744.922
1856.....	16.190	1871.....	868.779
1857.....	16.190	1872.....	932.174
1858.....	109.376	1873.....	1.128.884
1859.....	109.376	1874.....	1.288.877
1860.....	222.696	1875.....	1.800.895
1861.....	251.063	1876.....	2.122.407

## NAVIGATION

The maritime and river transportation in Brazil including the coasting navigation, which, under the Constitution, is restricted to native ships, covers 27,566 kilometers of river lines. The present extent of frankly navigable rivers is 50,000 kilometers, and there are 22,434 kilometers of rivers still available for steam navigation.

The navigation enterprises which have contracts with the Federal Government are divided in three classes:

*a)* Subsidized companies or enterprises enjoying the same favors granted to the Lloyd Brasileiro; there are 12 of them, 5 being maritime and 7 fluvial;

*b)* Companies which enjoy the same favors with the exception of the subsidy, there are 8, of which 5 are maritime and 3 fluvial.

*c)* Companies whose ships enjoy only the advantages and privileges of mail steamers; these are 10, of which 6 are maritime and 4 fluvial.

The fiscalization of all these companies is in charge of the General Superintendence of Navigation.

See Table annexed:

# MARITIME MOVEMENT

SUMMARY OF MOVEMENT OF SAILING VESSELS AND STEAMERS, LONG-COURSE AND COASTING,  
IN BRAZILIAN PORTS, DURING THE LAST 7 YEARS

ENTRIES			SAILINGS		
YEAR	FOREIGN VESSELS	TONS	YEAR	FOREIGN VESSELS	TONS
1912	6,272	16,538,048	1912	6,235	16,460,101
1913	6,877	18,826,291	1913	6,895	18,858,678
1914	5,210	14,917,739	1914	5,225	14,865,685
1915	4,055	10,494,238	1915	4,078	10,499,652
1916	3,637	8,605,086	1916	3,659	8,601,828
1917	2,757	5,521,561	1917	2,741	5,490,876
YEAR	BRAZILIAN VESSELS	TONS	YEAR	BRAZILIAN VESSELS	TONS
1912	19,961	9,967,836	1912	19,956	9,960,240
1913	20,905	10,343,968	1913	20,970	10,345,624
1914	17,863	8,928,319	1914	17,871	8,937,800
1915	18,504	9,000,513	1915	18,426	8,972,148
1916	18,172	8,622,774	1916	18,230	8,635,101
1917	18,959	8,959,253	1917	18,972	9,006,675
YEAR	GRAND TOTAL	TONS	YEAR	GRAND TOTAL	TONS
1912	26,233	26,505,884	1912	25,191	26,420,341
1913	27,782	29,170,259	1913	27,865	29,204,302
1914	23,073	23,846,058	1914	23,096	23,804,485
1915	22,599	19,494,771	1915	22,504	19,471,800
1916	21,829	14,227,860	1916	21,949	17,236,929
1917	21,716	17,480,820	1917	21,713	14,497,551



## THE MINING INDUSTRIES IN GENERAL

The following, report, by Dr. Orville Derby, who is the Director of the Geological and Mineralogical Service of this Ministry, will give a fair idea of the present condition of the mining industries in Brazil.

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Dr. Affonso Costa, Director of the Bureau of Information.

Dear Sir :

Replying to your communication n. 384, of December 8 th., requesting an account of the present condition of the mining industry in Brazil, I beg to inform you as follows :

A — *Gold mining* — At Sabará and Ouro Preto, in the central part of Minas Geraes, there are two large mining enterprises and a number of smaller ones, to which we are indebted for nearly all the gold exported from Brazil, which amounts to about 4,000 contos de réis (gold) . . . . (2,222,000 dollars). In this and several other districts of the same and other States, a certain amount of gold is produced owing to the intermittent labors of isolated miners, called *fiscadores*, operating in alluvial deposits, but as this gold enters the local circulation, its value, which certainly cannot be very great, escapes computation.

B — *Diamond mining* — Diamond mining has been on the decline since 1872, when the yield of South Africa

became so great as to supplant it, but it is still carried on in the districts of Diamantina and Bagagem, in the State of Minas Geraes and in those of the Chapada, Diamantina and Cannavieiras, in the State of Bahia. The official value of diamonds exported through the custom houses of Rio de Janeiro and Bahia, in 1912, was about 250 contos de réis (138,000 dollars) but there is no doubt that the total value of the production was far above this figure.

C — *Carbonate mining* — This is limited to the diamond region of the central part of Bahia. The official value of exportation through the custom house of Bahia, in 1912, was a little over 86 contos de réis in gold. . . . . (47,700 dollars).

D — *Manganese mining* — There are several mines in active exploitation in the municipalities of Ouro Preto and Queluz, in the State of Minas Geraes. These mines have yielded during several years past, an annual mean production of about 200,000 tons. Another centre of production is the municipality of Nazareth, in the State of Bahia; but the work is stopped at present. During the period in which these mines were worked, the yield was several score of thousands of tons per annum.

E — *Iron mining* — The enormous beds of first class iron, which exist in the central part of Minas Geraes, in the districts of Ouro Preto, Sabará, Itabira do Matto Dentro and others, have given rise to a number of gigantic projects of mining on a grand scale, both for the production of iron in the country and for the exportation of the ore, but up to the present, none of them have begun operations, and actual mining is confined to the Esperança Works, near the city of Itabira do Campo, which produces a few score of tons per day.

F — *Copper mining* — Beds of copper are known in the States of Rio Grande do Sul, Bahia and Maranhão, but only in the first of these States have attempts been made to exploit them on a small scale. It appears that even these have been discontinued, as no shipping is recorded for 1912 through the port of Rio Grande.

G — *Monazitic Sand mining* — The extraction of monazitic sand is at present confined to the original beds of

maritime origin lying along the coast from the State of Bahia to the north of Rio de Janeiro. The mining of river beds at several places in the interior has been discontinued for some years. The exportation in 1912 through the ports of Bahia, Victoria and Rio de Janeiro, was 3,398 tons, at the official value of 965 contos and a half (gold) (536,350 dollars).

H — *Coal mining* — This is confined to one single mine, situated in the municipality of São Jeronymo, in the State of Rio Grande do Sul, which, for a number of years, has yielded an annual production of several thousand tons.

I — *Mining of Precious Stones* — Yellow topazes are mined in the district of Ouro Preto, in the State of Minas Geraes; white, green, and blue topazes, aqua marines and turmalines, in the district of Theophilo Ottoni and neighbouring ones, in the eastern part of the State. The official exportation for 1912 was estimated at 133 contos 956 mil réis in gold (74,420 dollars).

J — *Agate mining* — This is carried on at several places in the State of Rio Grande do Sul. The exportation, in 1914, was 103 tons, valued at 82 contos 198 mil réis about (45,660 dollars).

K — *Mining of Rock Crystal* — This is confined to the district of the Serra dos Cristaes, in the State of Goyaz. The exportation, in 1912, was 45 tons, estimated at 56 contos 368 mil réis in gold (31,315 dollars).

Respectfully

*Orville Derby,*

Director of the Geological Service.

Ministry of Agriculture, Industry and Commerce.

The ownership of Mines is regulated by the new Mining Law, Decree n. 2,933, of January 6 th., 1915, now being distributed by this Bureau.



## CATTLE — RAISING

The pecuary industry exists in every one of the Brazilian States, but is particularly flourishing in Rio Grande do Sul, Goyaz, Minas, S. Paulo and Paraná.

The native stock, that is, the breeds which have resulted from animals brought over from the time of the first settlement down to recent years, are being greatly improved by mixing with select foreign breeds imported for the purpose. The result has shown itself in the greater size and product yielding capacity of the animals.

Difficulties arising from the susceptibility of imported stock to diseases from which the native animals are exempt are being rapidly overcome by the labors of our Veterinary Service.

The present condition of the pecuary industry is shown in the following table of statistics, organized by this Ministry.

# CATTLE — STATISTICS

STATES	NUMBER OF HEAD							TOTALS
	BOVINES	HORSES	MULLS AND DONKEYS	GOATS	SHEEP	HOGS		
Districto Federal.....	16,000	10,000	13,000	5,000	4,000	16,000	64,000	
Alagoás.....	260,000	82,000	21,000	319,000	207,000	98,000	982,000	
Amazonas.....	242,000	11,000	6,000	6,000	10,000	40,000	313,000	
Bahia.....	2,683,000	825,000	572,000	3,005,000	2,224,000	2,410,000	11,719,000	
Ceará.....	1,162,000	421,000	281,000	1,495,000	1,304,000	586,000	5,149,000	
Espirito Santo.....	161,000	62,000	94,000	37,000	22,000	503,000	879,000	
Goyaz.....	1,873,000	316,000	84,000	190,000	95,000	710,000	3,108,000	
Maranhão.....	640,000	132,000	34,000	190,000	92,000	245,000	1,333,000	
Mato Grosso.....	2,050,000	270,000	12,900	17,000	26,000	175,000	3,050,000	
Minas Geraes.....	6,861,000	1,744,000	779,000	517,000	447,000	6,716,000	17,064,000	
Pará.....	541,000	7,000	7,000	13,000	27,000	104,000	726,000	
Paralyba.....	718,000	173,000	50,000	848,000	483,000	168,000	2,483,000	
Paraná.....	540,000	230,000	101,000	35,000	70,000	699,000	1,673,000	
Pernambuco.....	871,000	274,000	106,000	1,692,000	464,000	293,000	3,700,000	
Piahy.....	1,163,000	266,000	96,000	638,000	516,000	325,000	3,004,000	
Rio de Janeiro.....	519,000	156,000	101,000	124,000	88,000	738,000	1,729,000	
Rio Grande do Norte.....	573,000	139,000	105,000	418,000	357,000	99,000	1,655,000	
Rio Grande do Sul.....	7,249,000	1,422,090	201,000	87,000	3,745,000	2,204,000	14,908,060	
Santa Catharina.....	521,000	129,000	46,000	13,000	35,000	360,000	1,104,000	
S. Paulo.....	1,322,000	509,000	417,000	297,000	282,000	1,934,000	4,761,000	
Sergipe.....	269,000	83,000	35,000	202,000	149,000	76,000	814,000	
Territorio do Acre.....	7,000	1,000	7,000	1,000	3,000	5,000	24,000	
Totals.....	30,705,000	7,289,000	3,208,000	10,049,000	10,633,000	18,329,000	80,563,000	

## FROZEN AND CHILLED MEAT INDUSTRY

A new industry now introduced in the exports statistics is that of the frozen and chilled meat, which owns its very prodigious development to the European war.

The first consignment was shipped to England in December, 1914, in a small quantity of about 1500 kilos.

In order to develop this beginning industry, four principal Packing-houses have been lately established: two in the State of S. Paulo; one at Mendes in the State of Rio de Janeiro, and another at Rio de Janeiro.

S. Paulo is doubtless the best fitted of the Brazilian States for the development of the frozen-meat-industry. The chilling and freezing plant at Osasco is one of the most modern type equipped with the most perfect American machinery, and has a capacity of 1000 bovine, 2000 sheep, and 4000 swine head per day. The Osasco Packing-house belongs to the «Continental Products Co.» a joint interest Wilson & Co. firm with the «Brazil Railway».

Another Packing-house in the same State at Barretos is the «Companhia Frigorifica e Pastoril» erected in 1916, equipped also with modern machinery; it belongs to a Brazilian firm conducted by the Conselheiro Prado and his of the associates.

At Mendes in the State of Rio de Janeiro has been erected a modern plant capitalised and conducted by Vestey Brothers, of London and Chicago.

At Rio de Janeiro was lately erected a Packing-house the «Armazens Frigorificos do Caes do Porto» that does

not slaughter but only chills and freezes the cattle slaughtered in the «Matadouro Santa Cruz» a slaughterhouse near Rio de Janeiro. The plant is the property of the Port Company and Brazil Railway.

In the State of Rio Grande do Sul there are now three frozen-meat-packing-house-plants in course of construction, and in a short time the greatest industry of the xarque (jerked beef) which is confined to the home market shall be replaced by that of the frozen meat consumption of which is world-wide.

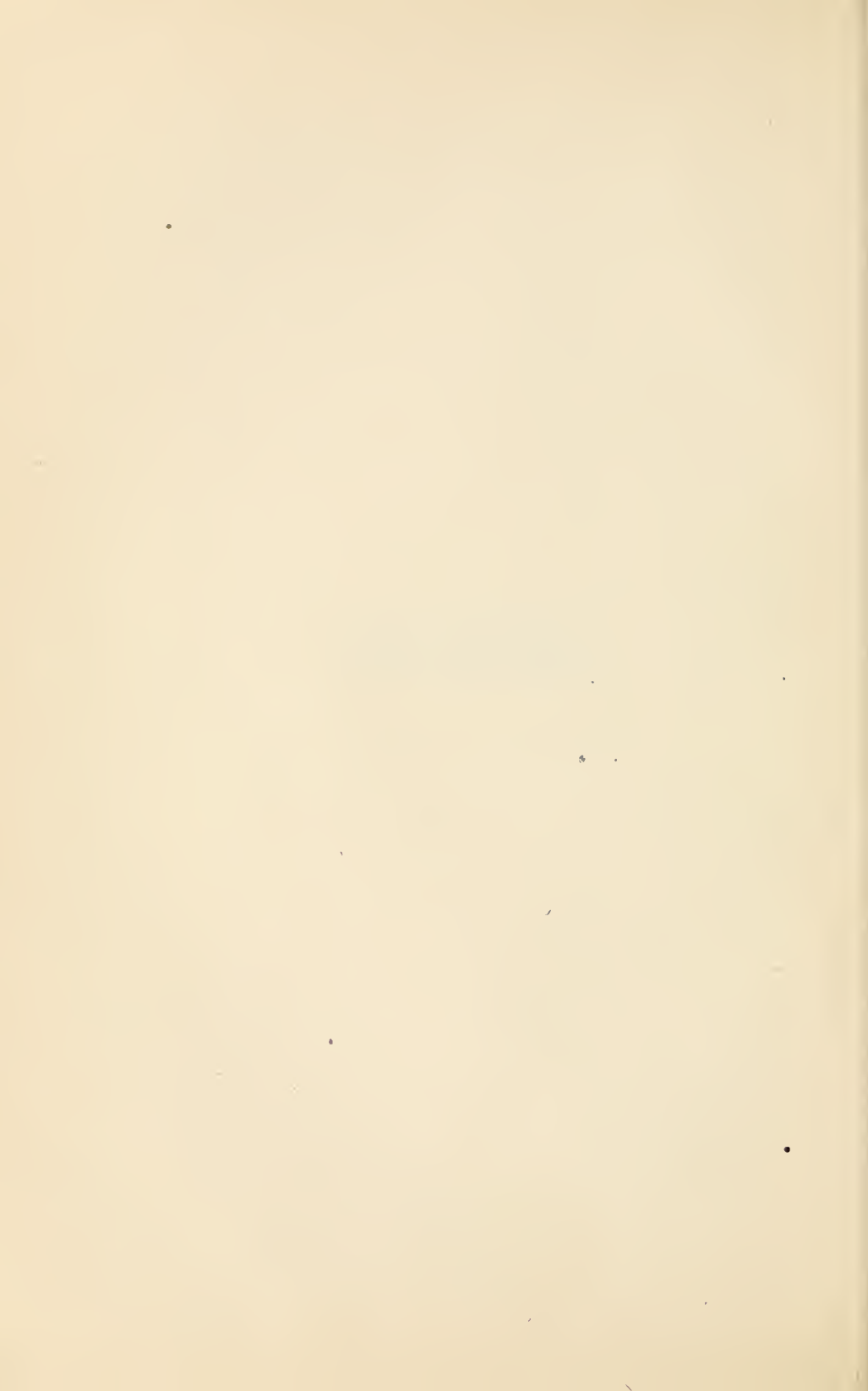


# FROZEN AND CHILLED MEAT EXPORTS

KILOS			VALUE F. O. B. MIL. REIS					POUNDS STERLING				
	1914	1915	1916	1917	1914	1915	1916	1917	1914	1915	1916	1917
	1,500	8,514,000	33,661,000	66,472,000	1,200\$	6,121,600\$	28,192,600\$	60,232,840\$	63	322,190	1,423,868	3,170,150



# IMMIGRATION



# IMMIGRATION

Immigration has not been neglected. On the contrary, it is considered by the Government to be one of the most efficient factors of our progress, for we have soil enough to accommodate yet many millions of people without overcrowding.

The Government has been solicitous, in accordance with the law in force, to place all immigrants, landing on our shores and soliciting official patronage, in the several colonial nuclei already founded, in harmony with the wishes and capacities of each, facilitating the acquisition by them of good farms, in excellent conditions of salubrity. To this end the Federal Government, in conjunction with those of the States, employs efficient means to facilitate communication between the nuclei and centers of population and trade.

## Immigrants arrived at the different Brazilian ports in 1917

STATS	PORTS	NUMREE OF IMMIGRANTS
Districto Federal.....	Rio de Janeiro.....	6.264
São Paulo .....	Santos.....	24.448
Paraná .....	Paranaguá.....	138
Santa Catharina.....	Florianopolis.....	34
Rio Grande do Sul.....	Rio Grande.....	308
		31.192

Comparative Table of the Nationalities of Immigrants, from 1910 to 1917

NATIONALITIES	1910	1911	1912	1913	1914	1915	1916	1917
Portuguese.....	30,857	47,493	76,530	76,701	27,935	15,118	11,981	6,817
Spaniards.....	20,843	27,141	35,492	41,064	18,945	5,895	10,306	11,113
Italians.....	14,163	22,914	31,785	30,886	15,542	5,779	5,340	5,478
Russians.....	2,462	14,013	9,193	8,251	2,958	640	516	644
Turks & Arabs.....	5,257	6,319	7,302	10,886	3,456	514	603	259
Germans.....	3,902	4,251	5,733	8,004	2,811	169	334	201
Austrians.....	2,636	3,352	3,045	2,255	971	104	155	18
French.....	1,134	1,397	1,513	1,532	696	410	292	273
English.....	1,087	1,157	1,077	825	462	311	244	243
Japanese.....	948	28	2,909	7,122	3,675	65	165	3,809
Miscellaneous.....	5,275	7,902	5,603	5,157	5,121	3,201	4,073	2,247
	88,564	135,937	180,182	192,683	82,572	32,206	34,003	31,192

NOTES ON THE CLIMATE





## NOTES ON THE CLIMATE

With regard to its climate, Brazil may be divided in three zones.

The first zone occupies the region lying in the vicinity of the Equator, and extends to the tenth degree of lat. south.

The second zone reaches from the tenth degree of lat. south to the tropic of Capricorn.

The third zone lies between the tropic of Capricorn and parallel  $33^{\circ}.45''$ , which is the southern limit of the Republic.

The characters of each of these zones are as follows:

First zone — Mean temp. 26 to 27 degrees centigrade. The climate of the upper Amazon is warm and damp, the mercury oscillating between close extremes, except during what is called the *friagem*, or «cold spells». The middle part of the day is undeniably hot, but the mornings are cool, and the afternoons very bearable. Frequent showers cool and purify the atmosphere.

Second zone — Mean temp., 23 to 26 degrees centigrade, in the low lands, and 18 to 21 degrees in the more elevated parts.

Third zone — Mean temp., 16 to 19 degrees centigrade. Minimum tem. at Florianopolis, in the State of Santa Catharina S, 2 degrees centigrade below zero.

The following is a table of the coefficients of climate taken in the chief cities of Brazil.

### Coefficients of Climate Observed at Various Places in Brazil

PLACE	LAT. S.	LONG. FROM RIO	ALTITUDE	PRESSURE AT 00	MAX. ABSOL. TEMP. CENTIGRADE	MIN. ABSOL. TEMP.	TENSION OF VAPOR OF WATER	RELAT. HUMIDITY	ANNUAL RAIN-FALL IN MILLIMETERS	YEARS OF OBSERVATIONS
Belém.....	1.27	5.19 W	7.11	760.4	33.3	19.2	21.4	80.0	2482	12
São Luiz.....	2.31	1.6 W	30	—	33.8	21.1	—	—	2465	2
Fortaleza.....	3.45	4.37 E	1.2	761.6	31.6	20.2	20.1	69.22	998	6
Manoás.....	3.8	16.20 W	40	756.7	37.5	18.8	—	77.6	2229	2
Quixeramobim.....	5.16	3.55 E	198	745.4	36.3	18.8	16.7	65.3	608	9
Natal.....	5.46	7.57 E	7.8	762.4	30.3	19.6	19.4	73.4	1265	9
Parahyba.....	7.6	8.19 E	4.4	—	34.0	17.7	—	69.6	1206	2
Recife.....	8.3	8.16 E	3	760.5	37.3	16.3	19.77	70.0	1930	16
Joazeiro.....	9.24	2.53 E	372	730.3	40.8	15.0	14.1	54.0	286	4
Aracaju.....	10.35	6.6 E	4.3	763.0	30.9	19.2	19.4	75.8	1017	4
Bahia.....	13.0	4.30 E	45	758.5	34.8	17.0	19.2	83.2	1329	4
Ilhéus.....	14.47	4.7 E	3	764.5	34.7	19.5	22.0	84.7	1895	3
Cuyabá.....	15.38	12.50 W	235	745.4	41.0	4.0	—	74.7	1600	5
Cannavieiras.....	15.41	5.3 E	4	759.8	30.8	18.2	22.8	80.9	1708	1
Theophilus Ottoni.....	15.54	1.47 E	287	735.7	35.4	9.5	18.7	90.1	1727	2
Diamantina.....	18.18	0.18 W	1,210	682.1	25.2	9.0	13.2	78.8	1644	1
Uberaba.....	19.45	4.45 W	760	703.3	38.0	0.0	14.0	72.0	1884	6
São Carlos do Pinhal.....	21.1	3.8 W	842	692.0	35.0	2.2	12.0	70.0	1301	15
São João d'El-Rei.....	21.8	4.20 W	880	687.3	33.7	0.5	12.9	80.9	1371	4
Ribeirão Preto.....	21.10	4.30 W	560	716.9	40.0	1.5	12.9	69.0	1433	15
Barbacena.....	21.14	2.24 W	1,143	667.2	30.2	2.3	12.5	81.1	1765	5
Nova Friburgo.....	21.19	4.9 W	876	689.0	30.2	1.0	10.9	78.8	1380	5
Luiz de Fôra.....	22.45	0.10 W	690	729.0	36.3	2.5	14.3	77.2	1424	11
Rio de Janeiro.....	22.54	0.0	66	737.3	39.0	10.2	16.1	78.4	1091	30
Campinas.....	22.38	3.54 W	660	705.2	36.7	0.2	13.2	77.0	1444	15
São Paulo.....	23.36	3.28 W	761	698.4	38.3	2.5	13.1	83.0	1342	15
Santos.....	23.56	3.8 W	5	762.7	38.5	3.0	16.2	81.0	2248	15
Curitiba.....	25.25	6.5 W	908	686.9	37.4	8.2	11.6	81.0	1481	23
Blumenau.....	25.56	3.7 W	28.6	739.7	37.4	3.2	—	85.0	1651	1
Florianopolis.....	27.35	5.2 W	4	762.4	32	3.5	15.5	77.5	1382	14
Pelotas.....	31.47	9.19 W	875	760.6	40.8	3.5	—	74.0	1238	9
Rio Grande.....	32.19	9.3 W	16	762.0	32.4	1.0	13.64	76.59	992	9

**Coefficients of mortality registered in various Brazilian cities, compared with those of other cities throughout the world.**

São Luiz de Potosi.....	36.6
Cairo.....	34.6
Athens.....	30.9
Petrograd.....	30.5
Alexandria.....	30.0
Moscow.....	29.0
Trieste.....	28.1
Madrid.....	28.0
Naples.....	25.2
Porto Alegre ( Brasil ).....	24.3
Breslau.....	23.5
Lisbon.....	23.1
Genova.....	21.5
Marseilles.....	21.4
Havana.....	21.2
Dublin.....	21.2
Milan.....	21.1
Rome.....	20.8
São Paulo ( Brazil ).....	20.8
Rio de Janeiro ( Brazil ).....	20.7
Turin.....	21.1
Vienna.....	19.3
Budapest.....	19.2
Tokio.....	18.9
Boston.....	18.5
New York.....	18.3
Bahia ( Brazil ).....	18.1
Paris.....	17.6
Berlin.....	17.1
London.....	15.6
Curityba ( Brazil ).....	14.9



BRAZILIAN MONEY



## BRAZILIAN MONEY

The basis of the Brazilian monetary system is an imaginary unit, the real (pron. rayahl, plural réis, pron. raees) worth, at par exchange, 27 thousandths of a penny. For practical purposes, however, the unit of account is the mil réis, that is one thousand réis, worth, at par exchange, 27 pence, or, in American currency, 54.6 cents. Fractions of one mil réis are expressed in réis—never in the terms of a fraction. Thus, 20 réis; 50 réis, 500 réis. Values of one or more mil réis are expressed by the words *mil réis*, preceded by the proper coefficient. But the word *um* (one), in the case of *um mil réis*, is commonly understood. Thus we say *um mil réis*, or simply *mil réis*.

One thousand mil réis is called a *conto de réis*, or simply a *conto*. It contains one million réis, and is worth, at par exchange, £ 112 10 sh., or \$546.00. The word *conto* is always preceded by the proper numeral adjective.

The writing of Brazilian values is a very simple matter. We have merely to bear in mind that we are dealing with decimal numbers, the base being always ten. There are three signs to denote the places of the figures. They are: the mil réis sign (\$), the *conto* sign (:.) and the thousand conto sign (·).

Values under one mil réis are inscribed to the right of the (\$) sign. Thus, \$522 (five hundred and twenty-two réis) Should there be no tens or hundreds, their places are occupied by naughts. Ex. \$005 (five réis); \$204 réis (two hundred and four réis). Values of one mil réis and over are

inscribed to the left of the (\$) sign, up to 999\$ (nine hundred and ninety nine mil réis).

Any of number of contos come between of the (.) sign and the (\$) sign up to 999:000\$000 (nine hundred and ninety nine contos).

Thousands of contos are inscribed thus: 999.000:000\$ (nine hundred and ninety nine thousand contos).

In case there are no réis the three reis places are occupied by naughts; but these are often understood, the places being left blank.

The following is an example of a value in the writing of which all the places are taken :

Rs. 645.721:982\$321 (six hundred and forty five thousand seven hundred and twenty-one contos nine hundred and eighty-two mil three hundred and twenty-one reis). The abbreviation Rs. is placed on the left of the value, but in informal expressions, it is frequently omitted.

The Brazilian coinage embraces the following denominations :

Gold — 20\$, 10\$ (not in circulation);

Silver — 2\$, 1\$, \$500;

Nickel — \$400, \$200, \$100;

Copper — \$040, \$020, (little used except in the interior).

Paper—1:000\$, 500\$, 200\$, 100\$, 50\$, 20\$, 10\$, 5\$, 2\$, 1\$.

The rate of exchange is expressed by the number of pence to which 1\$ is equivalent.



CONSTITUTIONAL RIGHTS



## CONSTITUTIONAL RIGHTS

Foreigners in Brazil enjoy all civil rights in common with Brazilians. Among these rights may be mentioned the following:

No person shall be compelled to do, or not to do, a thing, except as prescribed by law; all are equal before the law; the Republic allows no privilege of birth, and recognizes no titles of nobility; all persons are allowed the free exercise of their religion; but the Republic maintains no religion of State; civil marriage is the only marriage recognized by the Republic; all cemeteries are secular, and controlled by the municipalities; the instruction given in public schools is non-sectarian; no church shall enjoy government subsidy, nor shall the Union Government, or any State Government, form any kind of alliance with any church; the right to assemble without arms shall not be denied to the people, and the police shall not interfere, except for the purpose of maintaining order; the right of petition shall not be denied, and any person is entitled to denounce the abuses of authority and promote the punishment of the guilty; in time of peace, all persons are entitled to enter or leave the country with their property, and no passport shall be required; a person's house is his inviolable asylum, and no one shall enter therein at night without the consent of the dweller, except to succour the the victims of crime or accident, except in the cases and manner prescribed by law; the expression of thought both

orally and through writing or printing, is free, but every person shall be held liable for whatever abuses he may commit; anonymous communication is prohibited: except in case a person is taken in the act of committing a crime, he may not be arrested until after he has been indicted, save in cases determined by law, and in view of warrant issued by a proper authority; no person shall be held in jail without having been indicted, save in cases specified by law, nor taken to jail or detained there, if he shall give proper bond, in cases in which the law permits it; the law allows a full defense to all accused persons; the right of property is maintained in full, except in the case of disappropriations for the public good, when previous indemnity shall be paid; mines belong to the owner of the soil, save such limitations as may be established by law; the secret of correspondence shall not be violated; no penalty shall extend beyond the guilty person; the penalty of the galleys, and judicial banishment are abolished; the death penalty is likewise abolished, save the provisions of military legislation in time of war; the writ of *habeas-corpus* shall be granted whenever a person shall suffer, or be in imminent danger of suffering violence or constraint, through illegality or abuse of power, privileged courts shall not be allowed, except in cases which, by this nature, fall under special jurisdiction; the free exercise of all moral professions is guaranteed; industrial inventions belong to their authors, who are entitled to take out a patent for them; copyrights and trademarks are likewise the property of their authors, who are entitled to cause them to be duly registered; any person who shall allege religious belief as a reason of exemption from any constitutional duty, and any person who shall accept a foreign title or condecoration, shall lose all his political rights; no tax of any nature whatever shall be collected except by virtue of a law authorizing it; the institution of the jury is maintained; foreigners on being naturalized, are entitled to all political rights, except that they are not eligible to the Presidency of the Republic.

THE STATES



# BRAZILIAN STATES

STATES	CAPITAL	SURFACE SQUARE KILOMETERS	POPULATION
Amazonas.....	Mauós.....	1,894,724	378,406
Pará.....	Belém.....	1,149,712	869,886
Maranhão.....	São Luiz.....	459,884	683,645
Piauí.....	Therézina.....	301,717	441,350
Ceará.....	Fortaleza.....	104,250	1,179,197
Rio Grande do Norte.....	Natal.....	57,485	424,308
Paralyba.....	Paralyba.....	74,731	630,171
Pernambuco.....	Recife.....	128,395	1,049,025
Alagoas.....	Maceió.....	58,431	648,523
Sergipe.....	Araçujú.....	39,090	426,234
Bahia.....	São Salvador.....	426,427	2,746,443
Espírito Santo.....	Victoria.....	44,839	362,409
Rio de Janeiro.....	Niteroey.....	68,982	1,325,929
S. Paulo.....	São Paulo.....	290,876	3,710,350
Paraná.....	Curitiba.....	221,319	554,934
Santa Catharina.....	Florianopolis.....	74,156	463,997
Rio Grande do Sul.....	Porto Alegre.....	236,553	1,682,735
Minas Geraes.....	Bello Horizonte.....	574,855	4,028,553
Goyaz.....	Goyaz.....	747,211	428,661
Matto Grosso.....	Cuyabá.....	1,378,783	191,145
Districto Federal.....	.....	1,116	1,500,000
Territorio do Acre.....	.....	152,000	86,638
		8,485,777	25,142,611

(7) Calculated.

## EXPORTS OF THE TEN CHIEF ARTICLES During the year — 1918

ARTICLES	UNIT	QUANTITY	VALUE IN MIL. REIS PAPER	VALUE IN POUNDS STERLING	AVERAGE VA. LUE PER UNIT IN REIS (PA PER)	AVERAGE VA. LUE PER UNIT IN SILLINGS OR PENCE
Cotton.....	Kilos	3,248,152	12,322,776\$	662,134	38790	4/
Sugar.....	»	115,648,528	100,617,741\$	5,459,029	870	0/11
Rubber.....	»	22,661,690	73,727,818\$	3,997,770	32253	3/6
Cocoa.....	»	41,865,472	39,752,007\$	2,138,235	850	1/
Coffee.....	»	453,415,928	352,727,250\$	19,040,764	790	0/10
Hides.....	»	45,589,568	75,022,967\$	3,991,169	18644	1/9
Skins.....	»	2,215,901	12,397,780\$	669,131	5597	6/
Tobacco.....	»	29,754,585	42,922,284\$	2,263,269	13450	1/7
Mate.....	»	72,780,812	39,750,120\$	2,151,144	546	0/7
Chilled and frozen meat.....	»	60,508,678	60,753,199\$	3,246,395	18004	1/1



# Exports of Brazilian Merchandise per principal Countries of Destination

DURING THE YEAR — 1918

COUNTRIES	VALUE F. O. B. MIL. RÉIS PAPER	VALUE IN POUNDS STERLING
United States .....	393,896,303\$000	21,287,015
British Empire .....	152,726,572\$000	8,191,354
Germany .....	—	—
France and Colonies .....	104,400,734\$000	5,667,895
Holland .....	—	—
Austria Hungary .....	2,435,625\$000	135,418
Argentine Rep. ....	172,752,870\$000	9,296,626
Belgium .....	5,759,575\$000	323,434
Uruguay .....	118,504,757\$000	6,362,338
Italy .....	120,998,552\$000	6,421,278
Sweden .....	5,545,343\$000	290,179
Spain .....	25,421,068\$000	1,332,927
Portugal .....	10,401,872\$000	554,625













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